

so that the skull, skeleton, and external characters of the fur showed *P. niger* to be only a variety of *P. platyrrhinus*, as Dr. Murie has already correctly surmised would be found to be the case. I finally have just had a typical brown ordinary *P. platyrrhinus* prepared for the Melbourne Museum, and have found in it the small lateral lobes on the outer margin of the anterior third of the nasals, which I first noticed in the so-called *P. niger*, and of which there was no trace in five skulls previously prepared; so that there can no longer be the least doubt of the black and brown individuals being only varieties of one species. With the *P. setosus*, we have thus four well-marked living wombats, and at least two fossil extinct ones.

While referring to Dr. Murie's paper above quoted, I may take the opportunity to remark, in reply to his observation that, in my description of *P. latifrons* published by Mr. Gould, I did not lay sufficient stress on the peculiarity of the softness of the fur, that I have there contrasted it with the coarse hair of the common wombat in the strongest manner, by comparing it to the fur of the English wild rabbit in this respect.

Melbourne, Oct. 26, 1867.

IV.—*Note on the Existence of Gigantic Sea-Anemones in the China Sea, containing within them quasi-parasitic Fish.*

By Dr. C. COLLINGWOOD.

THE most remarkable circumstance which I met with when wading upon a submerged reef in the China Sea was the discovery of some Actiniæ of enormous size, and of habits no less novel than striking. I observed in a shallow spot a beautiful large convoluted mass, of a deep blue colour, which, situated as it was in the midst of magnificent corals of every colour of the rainbow, I supposed also to be a coral; but its singular aspect induced me to feel it, when the peculiar tenacious touch of a sea-anemone made me rapidly withdraw my hand, to which adhered some shreds of its blue tentacles. I then perceived that it was an immense Actinia, which when expanded measured fully 2 feet in diameter. The tentacles were small, simple, and very numerous, of a deep blue colour; and the margin of the tentacular ridge was broad and rounded, and folded in thick convolutions concealing the entrance to the digestive cavity.

While I was standing breast-high in the water, admiring this splendid specimen, I noticed a very beautiful little fish, which hovered in the water close by, and nearly over, the Anemone. The little fish was 6 inches long, the head bright

orange, and the body vertically banded with broad rings of opaque white and orange alternately, three bands of each. As the fish remained stationary, and did not appear to be alarmed at my movements, I made ineffectual attempts to catch him; he always eluded my efforts, not darting away, however, as I expected he would, but always returning to the same spot. Wandering about in search of shells and animals, I returned from time to time to the great Anemone, and each time I found the fish there, in spite of all my disturbance of it. This singular persistence of the fish in keeping to the same spot, and to the close vicinity of the great Anemone, aroused in me strong suspicions of the existence of some connexion between them.

These suspicions were subsequently verified; for on the reefs of Pulo Pappan, near the island of Labuan, I met with more than one specimen of this gigantic Actinia, and the fish, so unmistakeable in its appearance when once seen, again in its neighbourhood. Raking about with a stick in the body of the Anemone, I by degrees dislodged six fishes of the same species, and of various sizes, from the cavity of the zoophyte; and this time, being provided with a hand net, I had no difficulty in capturing them all. Thus the connexion existing between the fish and the Anemone was demonstrated, though what is the nature and object of that connexion remains to be proved.

There are at least two species of these Anemone-inhabiting fish; and a second species of the same genus differs from that just described in having black and cream-coloured vertical bands, instead of orange and white. Such a fish I have seen, evidently closely related to the first described, in the possession of Mr. Hugh Low, of Labuan, who in times past had made many excursions to the reefs, and had become acquainted with this fact. Mr. Low had it then living in a tub which did duty as an aquarium, having obtained it some months before from the body of what was probably a second species of fish-sheltering Anemone. The fish was remarkably lively and knowing, and lived in good health in the tub for several months—a proof that the connexion between these animals, whatever its nature, is not absolutely essential, for the fish at least.

It has long been known that there is a *Holothuria* (*H. ananas*) which harbours a parasitic fish. The *Holothuria* and its fish are figured in the 'Voyage of the Astrolabe;' and such a *Holothuria* inhabits the reefs about Labuan; but its fish bears no resemblance to those I have described, not indeed belonging to the same piscine family.

But the saddest part remains to be told. The six fishes having been secured as above, I made no drawing or description of them, but placed them in spirits and transmitted them home with other specimens. From some fault probably in the spirits, these fishes were totally destroyed before arriving in England, although, with the exception of some other fishes, the rest of the specimens were in tolerable order. I trust, however, that, as I know precisely where they are to be found, I shall be able to procure new specimens from the same spot.

V.—*On the Irritability of Plants.* By C. BLONDEAU*.

WE have undertaken, in the course of the present year, a great number of experiments upon the irritability of plants; and these have shown us that the faculty possessed by certain plants, especially the Sensitive Plant, of executing apparently voluntary movements, may be suspended by various agents, such as ether, chloroform, carbonic oxide, protoxide of nitrogen, and essence of turpentine, all of which, as is well known, act upon the nervous system of animals.

Amongst these experiments there is one which seems to us to possess sufficient interest to induce us to submit it to the judgment of the Academy of Sciences. This consists in submitting the Sensitive Plant (*Mimosa pudica*) to the action of the galvanic current.

In performing our experiments we selected four fully developed Sensitive Plants, the sensibility of which was so great that the least contact, such as the friction of a fly's wing, was sufficient to cause their leaflets to close, and even to depress the petiole of the leaf along the stem. After placing the pots in which these plants had been grown upon an insulating support formed by a plate of glass, we attached to the two extremities of the stem in each of them a small copper wire for the purpose of passing the current generated by a single Bunsen's couple. After waiting for a few moments, the plant reopened its leaflets, and the petiole was raised; the current was then passed, care being taken to avoid any movement which could agitate the plant. Under these conditions we observed no effect, the leaflets did not fold up, the petioles did not lower themselves, and the plant seemed to be insensible to the action of electricity.

We then varied the experiment: instead of employing the direct current of the pile, we made use of the induction-

* Translated from the 'Comptes Rendus,' August 12, 1867, pp. 304-308.